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## NATURAL SCIENCE IN COMMON SCHOOLS.

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The question of introducing Natural Science into common school education is not one of simple courtesy to science. It is too often so regarded, and from such a standpoint, the whole subject is reasonably enough dismissed. This is an error on the threshold, mischievous to the interests of truth. None who take a *right* view, decide in her favor because Natural Science, being now a member of polite society, we perhaps feel constrained to admit her into our parlors, and somewhat entertain, if not be entertained by her.

Yet there is no doubt that the subject is often viewed in some such light. Natural Science is a great and aristocratic member of our literary ranks. Once plebeian, once despised, once abandoned, even in our oldest State university, to mouldy vaults, and not rarely trampled under foot by classic buskins, it is now all but *par inter paribus* among the elements of our college curricula; it is honored in high places among great nations; it is held in high esteem by merchant and manufacturing princes; it is knighted by sovereigns. Under the glow of all this greatness, it seems

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to be asked, "Really, would it not be doing the clever thing to invite this distinguished member as a guest into our school rooms? Besides the merited courtesy to an honored guest, would it not bring some little *eclat* to our own cause?" Such is the essential attitude in which the question stands with many, who are therefore either injurious advocates, or mis-informed opponents of the good work.

Any such ground is here, in the very foreground of the argument, distinctly repudiated; in no such spirit shall these thoughts be shapen. Our common school system is not a matter of courtesies or of empty honors; it is a matter of serious work to be most thoroughly done. In so far as Natural Science would be simply a worthy, or even a distinguished guest, a social ornament to the school-room, it is utterly left out of present consideration. The only question which will here be entertained is, whether common school education, for its highest efficiency, does not *demand* its introduction; whether, by its continued omission from the regular course, we are not doing the commonwealth a decided wrong in the imperfect development of her future citizens.

In reply, I would present to-day in all earnestness the urgent necessity of its introduction into the education of the children of our state; not as intellectual and toothsome dessert to be served up only in the more aristocratic schools, where alone dessert can be afforded, but as a part of the substantial bread-and-butter diet, in the humblest district. Let us rather have no Science, than to allow its admittance in mere courtesy to the very "cipher of a function." If it is not to do yeoman's work down among the foundation stones, let us give it no further thought.

Science has a great glory of her own; she shines afar. But we do not *need* her brightness; we will not borrow one of her rays. For the education of the common school has also its glory, and it is quite the peer of the other. It was the common school, quite as much as the laboratory, that lifted Prussia through the fiery hail of many battle-fields to the proud eminence she occupies to day.

Let Science keep her glory in her great laboratories, if that is all that we seek. We do not ask her presence if she must come to shine in her robes of state; we will accept her only if she will consent to be our servant. When we elect our most brilliant statesmen to our Presidential chair, it is not that our country has need of their glory to shine forth from the Capital; we put them there to *work* as they never worked before; to be the chief servants of the people. And, in fact, the more eminent the former glory of the man whom we exalt into the hard service, the more we seem to enjoy buffeting him and reminding him ever and anon of his servitude. Even so should we deal with illustrious Science. If we can make her work for us, well; if, in spite of her glory, (which is rather in our way,) we can keep her usefully to the drudgery of our school-houses, welcome to her! But if she knows not how to tuck up her queenly robes, and do this daily household work, then we will do well to make our lowest bow, and retire from her splendid presence.

Again, let it not be supposed, to the prejudice of the cause, that the asserting of this essential work by Natural Science, is intended to introduce a laboratory in every school-room; or to make the teacher's desk flare out with retorts or pipettes, and all the brazen and vitreous paraphernalia of the chemist's desk. No such riotous demonstration of new-fangled ideas is advanced; nothing is to be generally desired beyond the simple but effectual work, with little parade, that common sense would suggest for the practical purposes of common life; and if in this work a funnel or two should on suitable occasions assert companionship with the teacher's call-bell, in the lower grades of schools, or bubbles should strike up a musical dance in some flask, or a little case of quarry-specimens should make bold to consort with the philology of Webster,—such gentle innovations should hardly startle the most timid.

In urging more directly the necessity of scientific instruction in our common school system, two propositions will be here maintained. And the first is, that no teacher should be considered completely equipped for the work of general

instruction in common schools, especially in primary or ungraded schools, (as requiring the more versatility of talent,) who has not made a fair acquaintance with the more popular and practical part of scientific studies. If this theme is to be welcomed as a common educator among us, then of course our teachers must be anticipating this, and arming themselves for the work. But even if classes are not to be called to a single hour's direct study of Nature's laws, yet for the ordinary and most orthodox purposes of the school-room, it should still be an element in his training. The studies peculiar to scientific departments are wonderfully needed to expand the mind of the teacher, and to inspire his soul to the work. Natural Science is nothing, if not the investigation of all life and all material laws in a myriad of instructive ways; the contemplation of those things which are the most tangible expression of the greatness and the contriving love of our Creator. The field is boundless; the inspiration of the research is sure. To come into sympathy with Nature, is to come very near to the God who expresses himself through her, and to our fellow-beings who share these glories with us. That teacher is doing one of the choicest things to bring himself into a pure and healthy tone of mind, who, on the way to the school-room, culls and lovingly studies the flowers that (possibly for that very purpose,) are blooming in his path.

And such a sympathetic study is the more necessary to his mind, the more classical that he is. There is to many, somewhat of a hard formalism about purely classical and mathematical studies, which tends to educate a man away from beating hearts and warm-blooded feelings. But it will bring him nearer to mastery over his pupils to stand before them qualified to put them at any time into communion with the sublime lessons of every mineral or flower that they may handle, than to read volumes on school discipline.

There is no profession that demands a more generous expanse of mind than that of the teacher. He must be many-sided in his resources, and take comprehensive views. His studies to this end will naturally group themselves



about two great centres, *mind* and *matter*. He will study the mind in its nature, growth and history, that he may know how to govern mind. He will study matter, remembering that we must not keep our heads always in the stars, not always in that which is spiritual, while we are walking the earth. Mind and body, and body and the natural forces, are deftly linked for this life journey by our Creator's hand; and what God has thus joined together we cannot improve by separating, until, at least, death do us part from this wedded bond.

And the teacher must remember that he is not educating purely spiritual beings. Whatever his pupils may be, they are not yet angels; they are very largely "earthly," and their souls are interwoven with the material by a thousand unseen ties. They must be educated as such; educated to use wisely these material bonds which are to be to them gladness or woe, success or failure, in proportion to their judicious employment. God has chosen the material as the medium through which his will, his majesty and his love shall be revealed to us; our great spiritual agencies cannot be carried on without it, and we must magnify its office. The great benevolent heart of the civilized world could never have been quickened into one great earthquake impulse of sympathy, of unparalleled generosity, if the telegraph, the most brilliant resultant of man's study of nature, had not taken the message of the burned city and the perishing multitude on the prairies of Illinois,—a message all hot with immediate suffering, right to every man's door on two continents. It will be then for high purposes that a teacher educates himself into a lively knowledge of this system of created things.

And there is an especially enlarging, expanding power in the studies of Science. It takes men right into the grandest generalizations. It has a peculiar inspiration of its own, quite necessary to a healthy mind. If a teacher would be in broad health, let him often drink in the air of Nature's wilds by strolling forth with Lyell or Humboldt, or Hugh Miller, or Darwin, or Dana, or Agassiz, or Tyndall; or when more poetically than practically inclined, with

Wordsworth, Thoreau, Whittier or Bryant. You may depend upon it, that after such a communion with nature through her most gifted students, his heart will beat to a more glorious rhythm, sending a new glow tingling to his finger-ends, and imparting a finer quality to all the instructions of his school-room.

Scientific study is also the only sure basis for conducting those object-lessons already so popular. In these there will be far less danger of misrepresentation, if the instructor, instead of travelling on the very verge of his knowledge of nature, is simply drawing out a few facts from a large comprehension of the whole field.

Again, an incidental, but very important advantage of such study, will be the immense fund thus afforded, of the various illustrations so demanded in the school-room; for Nature is a garden of illustration; this thought will surely go alone, and needs not that I should push it any farther.

I must hasten to leave this part of the subject, rich as it is in thought. Those old Athenian philosophers had the right idea, when they taught their pupils while walking in the fields and woods. Our noble American poet flung out the same truth in rhythmic folds over us, when he said: "The groves were God's first temples." He might have added in equal truth, if not in equal rhythm,—and *school-houses* too.

Parents sometimes take us teachers by the hand and implore us to give their children less of book-learning; to take them out into the woods, and teach them something of the rocks and trees, mosses, flowers and skies; and thus to restore the balance to their minds, overweighted, on the purely intellectual side, by the studies of the printed page. In all such cases, they too are groping after the same great truth. We cannot be peripatetics; we can hardly see our way clear to any sensible carrying on of our schools in the groves, even in the most rural districts, but a teacher can do much of the same thing in another way. He can bring much of the spirit of the fields into the school-room if he choose to be so inspired. He can come in, redolent, not with the mustiness of library lore, but with woodland per-

fumes; he can inspire his flock to go by themselves into those pursuits of Nature's wonders, which will return them with a manlier vigor to the tasks of their school-desks.

The second proposition here maintained is, that for pupils in schools of all grades, direct instruction in Natural Science in appropriate methods, is advisable, as a matter of indispensable economy. Such instruction is certainly adapted, if judiciously conducted, to the capacities of the youngest pupils. It is allowed that the perceptive powers are the earliest awakened in full strength in childhood; this period is in fact the springtime of observation; now the opening studies of Natural Science are just those which call entirely upon the perceptive powers. To notice facts, qualities, uses, these are the groundwork of all scientific attainment, and they require the exercise of perceptive powers. Much valuable scientific instruction may thus be attained in early childhood, while the reasoning powers will be called only into that gentle exercise which is most natural at this early stage of life. Children will want no keener pleasure than this very work. It is what their nature fairly *demands*, and *we* must give it to them. A thoughtful writer in "Nature" has recently said:—"The minds of boys of seven and eight should surely be as carefully developed as those of their seniors, and there is certainly no means of pure mental culture so successful as scientific teaching. A boy of this age should not be taught Science so much for the sake of acquiring a certain number of facts as of developing his powers of observation and reasoning, and giving a proper tone to his mental faculties. \* \* \* It may be urged that children of eight or nine are too young for systematic science teaching, but facts prove the contrary. An ordinarily intelligent boy or girl of this age is perfectly capable of understanding the broad differences between the animal, vegetable and mineral kingdoms; that there are more gases than one in the world; that some of them are colorless, while others are brown or green; that some burn while others do not; that some plants grow from the inside, while others grow from the outside; that some animals have jointed backbones, that

others have their bones outside their bodies, while others have none at all. Facts such as these are perfectly comprehensible to children even younger than those I have named."

Again, as for the teacher, so for the pupil, Science is needed as an inspiration in the school-room. For the majority of pupils there is perhaps sufficient variety in the present number of studies; but the teacher has no right to work for the *majority alone*; he must do the best that he reasonably can, for every individual under his charge. In the minority who are quite stolid under the ordinary pursuits of the school-room, are often contained the greater men. Out of this number have come Howard, Grant, Beecher and other men of great influence. This section of the classes always contains a number that are not wanting in force of character, though they may be studying very indifferently, simply because they have as yet found no inspiration suited to their souls in the routine of their training. A railroad engine is one of the most stolid, immovable things imaginable, until you touch the right valve. Then the track must be instantly cleared! The teacher is in duty bound to stop grumbling about his dull boys, and turn to berating his own dulness, till he has found the right theme to touch these dormant energies into life. It is to do just this work, not for one moment to supersede the time-honored themes, but as a friendly auxiliary, as an engine to start the whole train, that Natural Science may successfully be brought before the teacher's desk. Listen again to the apt words of the writer above quoted:—"The boys of most schools would be classed by the master under three heads: classical boys, mathematical boys, and good-for-nothing boys. This last class exists mainly because the proper food for them has not been provided; they are allowed to starve for the lack of it, and grow up as men with stunted and impoverished intellects; they have not been educated, the powers of the minds have not been drawn out by the fit means, and they pass through the world as animated failures. Let Science work side by side with classics and mathematics, but not usurp their places in the work of education, and the good-for nothing class will be sensibly

diminished, if, indeed, it be not entirely done away with." Let me only add :—many pupils that do nothing with Arithmetic, Geography and other standard branches, simply need some "new fire to kindle their dry stubble," but when the spark has once been called down upon them, it makes as thorough work, as did the fire on Elijah's altar. It consumes, not only the fuel especially provided, but turns back and consumes the altar and licks up the water flowing around it. There is many a torpid school-room which needs just such a lightning stroke as this.

Again, scientific instruction, for the purposes of a common school education, is as keenly practical as geography or arithmetic, and it is daily becoming more so. Yet we seem to hear the united voices of our honest yeomanry, the farmers, the artizans, protesting against this. They are but too well satisfied with the same old routine which they whittled through themselves. What was good enough for them, is good enough for their sons. But let me remind these good people, that they are daily paying severe penalty for lack of that simple elementary knowledge of Natural Science which they might have acquired at school, side by side with the three R's on which they rate themselves so much. Go into the work-room of a photographer and see him throwing into the refuse heap his waste scraps of blotting paper rich with the drippings of nitrate of silver, because he has not the faintest idea of the simple facts of solution and precipitation, by which he might yearly recover bright metal from those scrap-heaps. Go to the chemist's sanctum, and mark the costly journeys that farmers will take, to consult him with all anxiety—note their evident long distraction from their business, their morbidly high hopes, to be utterly cast down, as the chemist tells them at a glance from across the room, that the glittering prize that they have brought is worthless mica or pyrites. And this they might profitably have learned in boyhood, in the little red school-house. And so, in a thousand different ways, an early instruction of a very simple yet comprehensive kind would have proved an economy of time, of money and of feeling.

On this topic of great importance, our limits forbid more than the bare mention of several themes of scientific instruction perfectly practical and congenial to the school-room, the understanding of which would either tend to far greater greater economy in households, or throw additional safeguards around life and limb. Such are, a knowledge of solution and of solvents; of poisons and their antidotes; of flame and its laws, in the appreciation of which fewer victims would be allowed to run about burning like torches till they expire; a knowledge of heat and its laws; of the facts and principles underlying culinary operations; of the chief minerals and geological strata; of the more common flowers, trees and insects; these and many other topics would be worth far more than they would cost, even in elementary education.

As one deeply interested in the most liberal culture of the children of the nation, I would thank the learned \*orator of last evening, that, among the noble thoughts which were as so many lungfuls of fresh air for us teachers to drink in, he so forcibly reminded us that the object of education is to make a *man* in all his fulness of development. And I thank him for that other word, which, among others, he so choicely spoke, as to the possibility and value of general scientific instruction; when he said that it would be as easy for the plough-boy who knows the countenance and traits of every sheep on the farm, to know the name of every flower, of every mineral, of every geological formation, as well. This is the *fact*; and it goes very far toward justifying us in introducing Science right early; but it seems impossible to get the acknowledgment of it into the good honest heads of our yeomanry, unless, indeed, with some sledge-hammer, we could drive it in.

We must hasten to consider the next point—as to the methods and extent of this kind of instruction. Our great dramatist has said that “a jest’s prosperity lies in the ear of him that hears it, never in the tongue of him that makes it.” A most suggestive hint to apply to all our teaching, and especially apt in scientific instruction. We may dis-

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\* President Miner, of Tuft’s College.



course never so logically and eloquently on Nature's work, and yet fail of our end, because the ears of our young listeners have their own methods, and are not suited.

To attempt to teach Science in elementary schools as it is taught in universities or schools of higher philosophy, would be as complete a failure as to try to lead a platoon of toddling infants on a double-quick march. We must then judiciously select and adapt. Isaac Taylor suggestively says: "It is not in any case the roots and trunk and main branches of philosophy, that should be offered to children, but rather its green leaves and blossoms; digests and compendiums, we should come to in education as we come to the bones in process of anatomic dissection, last of all. To hang up a grim skeleton before a child, and tell him, 'This, my dear, is your new acquaintance, Philosophy,' is no very auspicious method of compassing the friendship we wish to induce."

Let us then draw out our younger pupils upon that to which their ears will listen, the pleasing facts of nature; let us show them the structure of the leaf, petal and seed-organs of the plant, the eye or wing of the dragon-fly, the limestone or granite of the quarry, the trilobite sprawling to-day in the *otium cum dignitate* of his higher existence as a cabinet-specimen, yet sprawling as when ages ago he was enjoying the same leizure in his lower life in the Silurian mud; or, show him the same all nicely curled up, successful, as few of us are, in "making both ends meet," curled up to take that nap of some myriads of years ago, from which he has not yet awaked. Show him the glistening scales of mica-sand which once travelled to England in ship-loads of folly as gold-dust, and thus make sure that these incipient farmers before you will never travel to the next town, as some of their fathers have done, on the same fool's errand. Show them "fool's gold," and contrast it with bankers' gold; pour for them a limpid solution of some chromate into a clear solution of lead, and let them puzzle their heads to account for the brilliant yellow cloud that falls rolling to the bottom.

Do many such things, not so much as *facts*, but as exer-

cises in observation, and you will have gratified the chief power of young minds, while you will have made a start in Science of no small value. First, give facts and qualities ; then, with maturer classes, differences, relations, analogies ; then, groupings and classification ; then, but only for well-developed classes, draw more upon the reasoning powers, by giving generalizations, laws, principles. These exercises, if given but two hours a week, will amount to much in the end. Such instructions, however, will not so well meet the object if spent on collections of isolated facts. There should always be a chain, making every lesson a part of a well-planned system reaching soon to higher instructions.

Of the objections brought against such general scientific instruction, but two can be noticed very briefly.

It is objected that the average teacher, even if provided with the requisite knowledge, has not the keen discrimination and organizing power necessary for a wise arrangement of the methods. For all such, the order should be judiciously laid down in general terms, as it has not yet been done, by some master-hands, and then they should be held strictly to the work. They must draw their inspiration from the highest schools in the land. Thus will the higher men of science instruct the teachers, and the teachers will instruct the pupils, till the influence of our great Sheffield Scientific School shall be felt to the finger-tips of our primary scholars.

But the most serious objection yet remains.

It is said, very plausibly, that we are needlessly crowding studies ; that this is an age of hot-house pressure ; and that this lugging Science into common schools is one of the examples of this unhealthy work. That such a use is made of Science, is too often true, where it is brought in as an ornament, a meretricious gilding to a school-room. Such a course has already been repudiated. But it must also be borne in mind that for the purposes of the common school, instruction should never tend towards *technical Science*, but toward those lines in which Science underlies our common daily life.

Yet when used in the most proper way, it would still

seem to many to increase unfortunately the number of studies. Is there not a somewhat ill-judged fear on this point? Is not this insisting, in so many high places, on the motto, *multum non multa*, somewhat wrong, after all? We must educate men for the age. It is the age, in its glorious advancement, and not the teacher in his school-room, that multiplies work; and when this advancing age is rolling up its great tide of many waves, it is idle for the teacher to try to keep them back with his mop at the school-room door! It was all very well when the Roman first spoke it centuries ago, to cry out *multum!* it suited that poor scanty age. But are we teachers to be the fossils of a past epoch? Ours is the age of the steam-engine, the printing-press, the telegraph, and a thousand other great progressive things; and we seem to hear our age thundering in the teacher's ear, *multum et multa*. Let us bravely accept the situation; it is our Creator's work after all, and He who ordains these duties for the mind may be trusted to provide also capacities to meet them in full measure.

A suggestion may here be made tending much to mitigate the fear of over-crowding the mind. You may saturate a pint of water with sugar; it will now hold no more; yet it will dissolve with scarcely diminished energy the salt which you now put in; when saturated with both of these, it can still seize as strongly upon a new saline which you may add as if it were not already loaded with the others. Such is the peculiar solvent power of liquids.

The mind has what I may call this same curious solvent power. It may be fully charged some day with geography, arithmetic and grammar, so that to add another page of these would be a wrong. Yet it preserves to a large degree its solvent power for some such new study as botany or chemistry. It will digest such new food and not have its elasticity seriously impaired.

Or again, the presence of some new salt in water often confers upon it a solvent power over some other matter which it did not before possess. So a mind may be constituted as to actually need the infusion of a new study to enable it to turn with solvent energy upon the staid old themes which have so long honored our school-rooms.

Bearing in memory this solvent power of mind, we will have less fear of judicious scientific instruction. Then let us, neither as teachers nor as citizens, be so afraid of generously giving our schools what they in this line demand as to merit the pointed rebuke of the holy book, "There is that scattereth, yet increaseth, and there is that withholdeth more than is meet, but it tendeth to poverty."

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#### THE WORD AND PHONIC METHOD OF TEACHING READING.

Many systems may be perfectly philosophical, and yet not bring about the desired result. Our theories may be never so beautiful, but we shall find, when put to the test of experience, that they are of little use, unless they succeed in achieving the objects for which they are designed. During the past two years, I have attempted to give the Word Method a thorough trial. Previous to that, the Phonic Method had been pursued with an earnestness which, we think, has well tested its efficacy. Neither of these systems has proved entirely satisfactory. Each one, used alone, with no combinations, has failed in some points, and has not succeeded in accomplishing the object desired in a thorough manner, and in the least possible time.

In the Word Method a few difficulties present themselves, the first and most important of which is that this system is too monotonous, and does not accomplish a sufficient amount of work in a given time.—Now, I suppose some will consider this an astounding statement, and a very foolish idea; nevertheless, I believe it to be true. It is usually claimed that, by this manner of presenting the subject to the pupil, ideas are better awakened, more thought developed, and a desire for knowledge more deeply instilled, than by any other system. I grant that the Word Method does do all this. I have found it the very best thing for beginners. The child gets a tangible idea the first day of his school life. Reading is made interesting and pleasant, and he goes home at night with the exulting thought that he can read "good boy" and "good girl," and that he

has been fully initiated into all the mysteries of goodness. For the first few days, and usually for several weeks, this system will succeed wonderfully; and I imagine that I have indeed found the true philosopher's stone, that it is the best and only successful method of instruction. But, at the end of about a month, I generally find the interest of the children beginning to flag. They begin to get tired of continually learning new words, learning to print the same, if possible, with no new exercises, and nothing to break up the routine. I have found it impossible, at this point, to keep the children wide awake, and anxious for work. Little, tired eyes would fail to "snap," and little fingers would be all ready for mischievous pranks. Invariably, at this period, I have been obliged to invent some changes, to vary the exercises, and break up the routine. The appearance of the class at this time has always shown the necessity for a change of some kind.

It appears to me that there is a physiological reason for this.—The child's brain, at five years, is not sufficiently developed, and will not mature fast enough, to keep learning new words every day. He knows all the old ones, and does not forget them; but, I think, if any teacher will watch the countenances of her class, she will find that there will be a tiredness, a weariness about them; they will come to the class with less alacrity, and will show less zeal, if this method is closely pursued, than if the exercises are somewhat varied by recourse to other methods.

Another difficulty which has met me in the course of my Word Method experiences, has been a lack of distinctness in articulation. Much is said by our elocutionists upon this subject. In our colleges and high schools, a vast amount of time is devoted to this pursuit by those who desire to become public speakers, when a little attention to vocalization in our primary schools, and a full, free, clear utterance of the elementary sounds, would remedy defects which much practice in after life can scarcely overcome.

One beauty of good reading is distinct articulation—full, clear, ringing tones, and a freedom of sound that entirely precludes any effort on the part of the listener. The neces-

sity of "straining every nerve" to catch the thought of a reader or public speaker, is more than annoying, and very few will make the effort for any length of time. The *s*'s, the *d*'s, and the *t*'s, should roll out, and set the audience at their ease. For this special department of reading, the Word Method makes no provision. The child pronounces the words learned, as wholes, in his usual manner of speaking. No attention is paid to the separate sounds that compose the word. The aspirates, and those half-articulate sounds, of which so great a part of our language is composed, are left to the tender mercies of fate. He receives no drill upon that close sound of *d* which it is so difficult for us all to bring out fully and freely. The *s*'s are usually elided, the *t*'s are not considered worth his notice, and he falls into a loose, careless habit of pronunciation, which requires much practice in after life to remove.

Another objection, which has come up among my Word Method experiences is, that it gives the pupil no knowledge of the principles of orthoepy. Taught by this system, he learns nothing of the different sounds of the vowels, the sounds of the consonants, the two sounds of *c*, the sounds of *s*, the tonics, subtonics, atonics, and all the representative sounds of the language. All this is left until he enters college, or, what is more probable, he receives his sheepskin without knowing that there is any such thing, until he attempts to get a certificate to teach, when the School Inspector, ignoring his Latin and Greek, surprises his self-assurance by asking, "How many sounds has *a*?" whereupon the A. B. comes to the conclusion that "that study was not taught in his school!"

By a combination of the Word Method with the Phonic, this subject, which receives so little attention in our schools, can be thoroughly and well taught, and the student put in possession of more knowledge, with less time and trouble, than two-thirds of our school teachers at present possess. It is said to be the universal testimony of School Inspectors, that teachers are more deficient in this branch than in any other. They are well versed in their Latin and Greek. Euclid and French roll from their tongues with amazing



volubility, but orthography, reading, distinct articulation, are things which do not belong to their day and age.

Again, the Word Method furnishes no key by which the pupil can help himself. Every new word presented to him must first be pronounced by the teacher. He knows not the sound of a single letter; consequently he cannot make the most remote guess at its pronunciation. It has seemed to me that this system, closely pursued, would make the knowledge of our language a most difficult acquisition. It gives us no foundation upon which to build.

The Phonic system obviates this difficulty. It is the "open sesame" by which we may enter and explore the depths of our kingdom.—When the pupil has become familiar with the sounds of the letters, he will pronounce the words for himself; and is not this our usual method of pronouncing new words? Do we not make use of a rapid phonic analysis—so rapid that it is almost involuntary? We are so familiar with the sounds of letters that we scarcely know how we arrive at our conclusions, and we use our phonetic knowledge unconsciously.

The Phonic system, used with no combinations, proved itself no less unsatisfactory. Of all systems ever invented, we think this the very worst for beginners. Nothing can be dryer and more unintelligible than for a child to spend the first two or three weeks in a constant drill upon the short sound of *a*, the sounds of *t*, *m*, etc., without a single idea. No wonder school life becomes distasteful under such a *regime*.

The result of these trials and failures has been a combination of both systems, which has been more satisfactory, more interesting to the class, more productive of thought, and has accomplished more work in a short period, than either would do, used separately. I invariably commence with the Word Method, and then proceed to the Phonic.—First the idea, then the word, then the sounds which compose that word. At first, I produce an object, if possible, or refer to one; talk about the object until the interest is awakened; then the name is printed upon the board, and the class are taught to recognize it at sight. When this is

thoroughly done, the word is separated into its elementary sounds, the pupils are made to repeat them, and then print those sounds upon the board. After several words have been learned in this way, they can be combined into sentences, and read by the children. Nothing is said about the names of the letters for some months. The child will usually learn them himself. This process is continued for some time—always the idea first, then the name or word, and lastly a careful analysis of the sounds of which the word is composed. These combinations are kept up in this manner for about the first year, the teacher varying the exercises, when necessary, by a resort to either some of WEBB's apparatus, or to her own invention. In the second and third years, the Phonic system is brought in still more, as there is time for all the reading necessary, with a good deal of spelling.

I do not consider this method by any means perfect. I am fully aware that it is not very philosophical, and that it is open to much criticism. I have very much desired a perfect system of instruction in reading, but have so far failed to find it, though by this last method I have succeeded in producing better results, and making better readers.—*Miss Stirling, in Michigan Teacher.*

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"THREE TIMES ONE IS THREE; THREE TIMES TWO IS  
(or are) SIX."

The multiplication table has made a great deal of trouble grammatically as well as in other respects. Grave doctors of laws and other titled dignitaries, as well as less distinguished writers on arithmetic, or monarchs of the school-room, have arrived at different conclusions, and have pertinaciously marked as erroneous the opinions or utterances which failed to agree with their own oracular decisions. It may be presumptuous in us to attempt to decide where doctors disagree; but we nevertheless have some opinions on this subject which we will venture to set forth very briefly.

We say, and almost all children say, "Three times one is three." Many have said, and they can quote authorities enough, "Three times one are three." Now we claim that the boys and girls who say, "Three times one is three," are right, and ought never to be corrected for using this language. What is the subject of the verb? Not "times;" for the affirmation is the same, and the subject of the verb remains the same, if for "three times" we substitute "thrice," thus: "Thrice one is three." The affirmation or statement is, that the number 1 becomes the number 3 when it is repeated 3 times; or, one, thrice repeated, is three. The noun "times" can not be in the nominative case here, but may be parsed as governed by a preposition understood, thus: 1, repeated for three times, is 3; that is, the number 1, thrice repeated, becomes the number 3. If we use "one" correctly, we arrive at the same result still more plainly, thus: "3 times 1 horse is 3 horses." Here "horse" is the subject of the verb; since the "1 horse," repeated for 3 three times, or multiplied to the extent of three times, becomes 3 horses; but "three times" can never become "3 horses" until the nature of things is radically changed, or the difference between "times" and "horses" ceases to exist. The phrase "three times 1 are three" seems to us to be bad English and to savor of mistaken philosophy.

Pursuing the same course of reasoning, we should say, "3 times [the number] 2 is 6," or, "3 times two [things] are 6 [things]." If we regard 1, 2, etc., as abstract numbers, any one of them may be joined with a singular verb; and thus "3 times 2 is 6." Probably no teacher would hesitate to say, "Times is a common noun;" because in this sentence the word "times" is used abstractly, or is separated from all connection with existing realities or objects of thought. But if your mind is fixed upon 2, 3, etc., as concrete numbers, that is, as connected with horses, men, or any real or unreal things, then you must put both the number and the verb with which it is joined in the plural; and thus "3 times 2 are 6." Our result, then, is this:

When the multiplicand or number to be multiplied is 1, we must have the verb "is" or other verb in the singular;

but when the multiplicand is two or more, we may take our choice between the singular and the plural verb—that is, may use “is” or “are”—according as we regard the number in the multiplicand as abstract or concrete.—*S. W. B.*

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#### THE TEACHER'S PREPARATION.

\* By PARK HILL, Principal Prospect Street School, Bridgeport.

When it is resolved upon to enter the profession of teaching there is no more fitting question to ask than “For what purpose have I taken upon myself this responsibility?” and, in all probability, if conscientiously answered there will be revealed a great variety of motives; and how many of the reasons given do you think would warrant the choosing of the vocation in the sight of the all-wise Creator, who has for his special charge the scores of little children?

Should it be simply a means of support without the heart-felt interest of one who regards in deep sincerity the comfort, the life, the soul of those intrusted, then is that wanting which no personal need could ever supply, a deficiency which no personal extremity could ever amend.

Should it be merely a convenient thing to do in order to realize an extra sum of money for a special occasion or contingent emergency? Beware that purchases are not made at too great a price, that the woof and warp of tender and confiding minds are not taken from the great loom of life which for themselves should be woven into a mantle of renown to be worn in the highest places of earth.

Should it be because of unfitness or incompetency for anything else, that in every other department of labor essayed a total failure has resulted, that books, almost for the first time, are earnestly pondered over to pass the dreaded examination before entering the sacred realms of thought with the sin stained teachings of an unprepared and incompetent mind, then indeed is Pope verified in that he says: “For fools rush in where angels fear to tread.”

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\* Extract from paper read at State Teachers' Association, Norwich, October 30, 1871.

Were such a situation as this fully realized, then, instead of intruding upon the child's precious time, and blocking the energy and vitality which should pour forth as a power for good in the world, the field would be instantly left and some other employment sought where such an awful responsibility did not rest, where so strict an accountability would not be required. But should it be that a sense of duty and a love for the work inspire the person engaging to instruct the youthful throng, then, verily, does a noble ambition fill the heart of him who undertakes to labor in a vineyard where manifold labors are to be performed, where the ax is to be laid to the root of ever-departing, ever-returning trees.

With such a noble spirit as an unselfish desire to do good, such a motive as the advancement of knowledge, and such an aim as the increase of human happiness, God's work has been chosen, and he shall reward it with a bounty far surpassing earthly expectation. The first preparation, then, is to fully realize the situation; for each individual teacher to understand the purpose, the magnitude, the responsibility, and the accountability of the teacher's vocation, and to feel a fitness from the highest and most praiseworthy motives, rather that one is called, than permitted, to have dealings with the unsuspecting minds of little children, and it might almost be asked, what but the love-refined affection of the mother is hallowed enough to transfer the bud of heaven's blossom to the bower of the world.

When the school-room is first entered there come crowding on in quick succession so numerous duties as to bewilder the mind and fetter any freedom of action, so real as to cause a relaxation of all imaginary wonders and marvels resolved upon, and a field opened up where hard, weary, daily toil is required; and in disposing strength for this task, in making preparations for its accomplishment, there stands nothing of more undeniable importance than a careful study of the individuals themselves, to measure the length and breadth of the material to be worked and fashioned into the perfect structure of a school; to inquire after the hidden motives and secret impulses which lie behind the thousand

and one deeds, both good and bad, so constantly, so certainly, working out through the hands, feet and mouths of school children, impelled by a mind whose business it is the teacher's to know, to nourish, to mould, to transform from the restless, purposeless, unrestrained thing that it is, into an activity which perchance may excite the world, from its aimless end into that perfect mind which shall bring order out of confusion and become itself the aim of succeeding generations, from that uncontrolled state, to that obedience which shall meet the favor of worldly applause, and receive for its recompense a higher reward than the world gives.

Then, if the first preparation is, to feel something of the responsibility, to satisfy the conscience that the highest duty called, the next must be, to obtain information of the nature and character of those confidingly placed in trust; not the work of the first morning, the first day, or the first week, but a constant study, wherein must be employed all the means and facilities which every day brings along; and what is more reasonable than that parents should demand such a proficiency of knowledge in human nature as shall give them the assurance that their children shall not be warped and twisted from the symmetry and beauty of intellect designed them, into a shapeless and frightful imbecility; that their fond hopes for greatness and distinction shall not be changed into a worthless burden and bitter disappointment? Is it any less indispensable with spiritual and mental things than it is with physical and natural things that a knowledge of the composing elements and of the agencies employed, is necessary to accomplish any given object or purpose? None the less, then, with the infant mind, ever changing, when each child presents strange peculiarities and distinct characteristics, where is found every variety of shade and power, that which is attractive by sparkling brilliancy, that which is repulsive by sluggish inactivity. And does it appear to any that these respective traits require no thought, or concern, or knowledge? If so, how unfair to be called teacher, how unprepared to give proper direction and culture to those several minds, which for



such incompetency must be bowed, smothered, crippled ; and as every teacher is responsible for a culpable ignorance of the little ones dealt with, it should be of daily concern to improve in this department, where centers so much of that which constitutes honor or disgrace here, and happiness or misery hereafter.

Concerning the amount of work to be done, it is evident that self-elevation, as the ultimatum of teaching, will be as barren to both teacher and pupil as the desert, which always receives whatever of rain or of sun there may be, without yielding up anything in grateful return ; while a wholesome giving, without stint or measure, of an earnest, judicious labor, will be rewarded in due season and all toil largely repaid ; and those who are fearful that their work will exceed their wages, have not the preparation teaching demands in the department of actual labor. A continual effort is necessary to restrain and prevent out-coming disobedience, as well as to administer correction to full developed mischief ; and what better activity, what better forbearance can be exercised than that wherein the rude elements of unformed mind are trained into a respectable conduct and commendable behaviour ? Everything connected with the school-room calls for work ; patient, weary work, if it is ever hoped to make a garden bloom from the hedges, thorns and bogs everywhere to be found, and success in teaching is to be measured by the amount of labor performed, labor directed by knowledge, experience and skill ; and care should be used that bustle be not mistaken for industry, or commotion for active application. Existing and forthcoming necessities require labor and strength to be economized in such a manner that they shall be equalized to the effect of the greatest good for the whole time rather than an unwarranted and useless activity for the time being.

Labor in patience to rescue the naturally dull from discouragement has a greater demand upon the teacher than labor in pleasure to polish and make pre-eminent one gifted in intellect. Oh ! here is a field where unremitting preparation is called for, a field abundant in good works and rich harvests.

When the confines of the school-room are entered, the teacher is called upon to inaugurate a system of government, to decide whether a monarchy, aristocracy, or republic shall exemplify the control and administration, whether love and kindred emotions shall be the ruling power, or harsh severity assume the chief authority. The subject of government and discipline is one vital to the teacher, and in no small sense turns the balance for or against those engaged in the work, and to every reflective mind it will appear that an investigation of one's own self government is the first step in the right direction to ascertain whatever of efficiency or deficiency there may be in the source itself which is to guide and command others; and if the fount be found corrupt, may it not safely be inferred that the stream will not be otherwise? When so many difficulties arise, internal and external, there is the necessity, urgent and imperative, that they be adjusted with an impartial hand, that they be comprehended and legislated upon without error of judgment, that the grievances of the one be redressed, that the trespasses of the other be reprov'd. In the general proclamation of regulations for the discipline of a school it is of primary importance that they have an adaptation to existing circumstances; that the rights of pupil and parent are scrupulously regarded, that the rights of the teacher are in no degree forfeited; not simply as a means of policy, but as establishing universal principles, based upon reasons long reflected upon and well matured, reasons that cannot be gainsayed. Too many, then, are without any definite idea of system, without sufficient knowledge of the fundamental principles which constitute the very foundation of excellence in school government, that are groping about in the dark, trying to establish quietness and even perfection without any of the essential materials to work with, without knowing to what end they are continually fretting, punishing and worrying, except the one idea, "I want it orderly and quiet, and I'll keep up a commotion until it becomes so;" thus sacrificing whatever of ease, elegance and refinement, whatever of good, profit or pleasure might otherwise have been afforded. Truly those deficient in this

respect need at once to prepare themselves in the groundwork of their chosen business, to erect some standard of excellence, some point worthy of attainment, and qualify themselves in the proper ways and means for its accomplishment ; it stands as a responsibility upon every teacher that a good intelligent reason accompany every deed committed, and inasmuch as one can not be rendered active has been taken without justification ; then it behooves discrimination and carefulness where so great moral and legal rights are concerned as in this branch of school duties. Relative to education it may be said that, while a thorough and complete education does not necessarily imply a thorough and complete school, it may safely be inferred that, other things being equal, the better the education the better the school ; and although the exact amount can not in any case be specified, there should always be such a sufficiency as to be beyond the mistrust of incompetency, such a sufficiency that the pupil may rest content regarding the instructor's ability to give correct and abundant information ; and there is no more fatal mistake committed than that wherein the school-room is primarily entered for the purpose of refreshing the teacher in branches long forgotten, or of acquiring greater proficiency in studies partly understood. A thorough knowledge is as essential to gain the confidence and respect of the pupil as to explain points difficult to be understood ; a thorough knowledge is as necessary for the comfort and pleasure of the teacher as for the demand and satisfaction of the class, and while it is quite possible to be able to impart instruction in higher departments, it is never true that too much efficiency is brought into lower ones. Let not any limit be fixed to the range of studies only as thoroughness and competency may dictate ; let no termination be placed to studying only as health and duty may require. An "order of exercises" should not comprise the range of teaching, but instruction should be drawn from every available source, to give some relief from the dull monotony of prescribed text-books to which so many thousands are confined, detrimental to freedom of thought, development of mind and love for learning. Books are

proper in their place, and should be the teacher's constant companion, yet to place an entire reliance upon them will have the effect to blunt the sensibilities and render study tasteless. Laborious it may be to employ moments favorable for leisure, in the interest and behalf of the school, yet if there is no love for this work, no pleasure there, there is sadly the want of that which makes the school bright and cheerful, there is that wanting which calls forth the earnest desire of children to know more and more. Teacher, study out your work and do it, let not the moments fly listlessly by, and you be no better to-morrow than to-day, let not the year roll on and the wrecks of a hundred crippled souls cry out to you for the precious boon of which they have been deprived, and all for the want of preparation.

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#### WHAT CONSTITUTES A GOOD PRIMARY TEACHER?

At the late National Teachers' Association, in St. Louis, the above question was considered at some length.

The discussion was opened by N. A. Calkins, of New York city. He said that, first of all, the good Primary Teacher should be able to ascertain readily the condition of the child's mind; to comprehend its difficulties; to begin with it just where it is and lead it gradually from the known to the unknown.

2. She should know exactly what means to use, whatever the condition of her school, graded or ungraded.

3. She should have the ability to command attention without effort; to teach in such a way that children will govern themselves.

4. She should be able to keep the children profitably employed. Should be ingenious in devising work. Should be able to work without facilities.

Miss Lathrop, Principal of the Cincinnati Training School, thought that the most essential element in a good primary teacher was *quick and ready sympathy* with the children. Not merely to go down to them, but to *realize* their wants. Must be mother and sister to them. The

relation of teacher and pupil is something more than a mere business relation.

2. *Energy*.—A primary teacher cannot have too much. It may be, often is, misdirected, but there is no danger of there being too much of it.

3. *Tact*.—By tact, is meant a quick perception of the difficulties of children, and a readiness and aptness to help them out of them.

E. E. White, of Ohio, agreed with Miss Lathrop that sympathy is an indispensable element in the primary teacher, but insisted that it must be genuine, not pretended. The child can always see the difference. The teacher must be a child at heart.

2. The teacher must be an artist in the truest sense. The result of a method depends upon the *soul* the teacher breathes into it. We cannot make souls or influence life by mere methods—by pattern. The teacher must be more than the method.

3. The teacher must understand that the life of the child is to see, to do, to tell.

John Hancock, of Cincinnati, insisted still further upon the artistic element. Said that the primary teacher should be poetic in her nature. That she should be able to sweeten her instruction. Should be inventive—should sing, draw, etc.

W. T. Harris, of St. Louis, spoke *on* the question, but *not to it*. His remarks were confined to methods of teaching reading, and had no relevancy to the subject under consideration.

W. A. Bell, of Indianapolis, agreed with most of the sentiments expressed, but said two very important elements in the character of a good primary teacher had been omitted.

1. She must have good muscle, good nerve. She must be healthy. She needs a sound body as well as a sound mind. Many of the other qualifications mentioned depend upon this.

2. She must be able to live on a small salary. That School Boards had not yet gotten out of the idea that "anybody can teach children." They have not yet learned

that children never *study*, in any proper sense of that word, and that consequently it requires more tact, more energy, more ingenuity, more skill, more *labor*, on the part of the teacher to properly employ and instruct small children than is required to teach any other class of pupils. Not understanding these facts, they usually pay the lowest prices for primary teaching; and the teacher who devotes her time to the little ones must therefore be able to live on a very small salary.

He insisted that this was all wrong. That our best teachers should be our primary teachers, and should receive the best prices. Was glad to know that a few School Boards were already acting upon this principle.—*Indiana School Journal*.

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#### THE SUPERINTENDENTS UPON THE MARKING SYSTEM.

For the sake of calling special attention to some points, we will quote a few sentences from the report of the meeting of the New England Association of Superintendents, held in October. Alluding to a paper read by Mr. Emerson, of Newton, the reporter said: "The writer took strong ground against any system of expressing numerically, either by self reporting or otherwise, the deportment or the quality of the recitations of the pupils. The effect of marking recitations was injurious to the pupil, leading him to study under an unnatural excitement, or for the marks, making the over-sensitive and those who needed no artificial stimulants, too much excited, and tending to discourage the poorer scholars, and to make more indifferent the idlers. To the teacher, also, was the marking an injury. It took off his attention from the subject of his lessons; it trammelled him in the mode of conducting the recitation, and wearied him in his effort to do exact justice to each pupil."

We are forced to the conclusion, from the above report, that the ground taken by Mr. Emerson was quite too strong to be tenable. If the several propositions above quoted were endorsed by all who listened to them, we can see very



little occasion for the division upon the question of the marking of frequent written examinations. If any attempt to express numerically the deportment or the quality of recitations be an unmitigated evil, we should hardly expect to find much virtue in a system that aims to express numerically the value of a scholar's work as frequently exhibited by his written examinations.

Then, the apparent assumption that it is impracticable for teachers to preserve a record of their estimate of their pupils' work, without having it so potent and obtrusive as to more than neutralize all their personal influence in awakening scholarly enthusiasm, and calling out the highest motives for study is, to say the least, not very complimentary. The portrait of our scholars is not very fully sketched, to be sure, but the features that are presented, indicate a pretty weak set. They seem to be divided into three classes: 1st, the over-sensitive, who are too much excited by having their recitations marked; 2d, the poorer scholars, who are discouraged by the same means; 3d, the idlers, who are made more indifferent. We imagine that these statements would be almost as funny as a comedy to the majority of the scholars in our public schools, academies and colleges. That it is any better than a caricature of average results, we think comparatively few teachers would be ready to admit.

But suppose a teacher to have so little judgment and personal force, as to be quite overmastered by the inherent mischief of the marking system, what means does Mr. Emerson suggest to make it morally certain that such a teacher will not unduly excite the over-sensitive, that he will adequately encourage the poorer scholars, and prevent the idlers from being indifferent?

We are told that in the discussion that followed, "nothing was said in favor of the marking system. Its evils were acknowledged, and its good lightly esteemed." Does this indicate that the subject received a broad, candid, and exhaustive consideration? Here is a system, that notwithstanding it is universally acknowledged to involve a great deal of drudgery in the carrying out of its details, has been

quite generally adopted, and has been long practiced in our best public schools, academies and colleges, for the reason, as we have been led to suppose, that it was, on the whole, an economical and healthful method of securing desirable ends. A series of able educational articles by distinguished presidents of American colleges was recently completed in the *Congregationalist*. The article furnished by President Sturtevant, of Illinois College, and published two or three months since, was a serious and vigorous argument to sustain the position that the marking system when legitimately used is beneficial intellectually, morally, and religiously, and yet, in the discussion of this subject, these superintendents could say nothing in its favor, they acknowledged its evils, and lightly esteemed its good. We are still further informed that the association was quite unanimous in passing this resolution: "That we consider the practice of marking the merits of daily recitations objectionable, and recommend its discontinuance;" while "there was not as great unanimity in recommending the marking of frequent written examinations." This reminds us of the man who had made up his mind that he ought to discontinue the use of coffee and tea, but was undecided whether, as a regular beverage, he should take cider or whiskey in their stead.

We freely admit that there are incidental evils connected with the marking system, but it also has come to sustain quite important relations to important ends, and is not to be brushed away by the breath of a single resolution winding up a one-sided and inadequate discussion of the matter by those whose sphere of duties relieves them from just that class of responsibilities, for the meeting of which the marking system is used as an aid. These columns are open to those who wish to emphasize the evils, or to say anything in favor of the system, or again to those who will propose something better.—*New England Homestead*.

## EDITORIAL.

The present number closes the first volume of the third series of the SCHOOL JOURNAL, and with it we vacate the editorial chair. We resign in favor of those whom we know are well fitted, both by position and experience, to carry on the work already begun, and we cordially indorse the action of the State Association in their appointment.

Our editorial labors during the past year have been a source of real pleasure to us, but health, already imperilled, admonishes us, and pressing school duties forbid further service. We congratulate the teachers of Connecticut that the SCHOOL JOURNAL has been placed on a firm basis; having a respectable subscription list and a sufficient support to insure success. The faith which we had in the enterprise of starting and sustaining a teacher's periodical in this State has never faltered, and the results have exceeded our anticipations. We have had the sympathy and co-operation of a band of noble men and women, and we have faith in *them* and their support. The best part of our editorial experience has been the friendships formed with our co-laborers, and the knowledge we have obtained of the schools in Connecticut and education elsewhere.

We believe the JOURNAL has been a power in our little State, and that many schools have been made better by its influence, and that teachers have been better fitted for their work and found encouragement in its reading. We believe that it can be made still *more useful*, both to teachers and school officers, its circulation increased, and many names added to its list of contributors, and we look with confidence to its future.

Those who started with us at the commencement of 1871 should at once send in their subscriptions for the coming year to the Resident Editors, at New Britain. Principals and School Visitors would confer a favor that would be appreciated by those upon whom the burden of this work comes, if they would co-operate in securing new subscribers and encouraging prompt renewals. The JOURNAL is not a speculative enterprise, but money is needed to pay our excellent printer, and teachers cannot do less for the advancement of the profession or for their own self improvement than to remit the price of subscription. We publish, in another place, the Prospectus for the coming year, to which we invite the attention of our readers. Those who club with other magazines should remit early, so as to obtain the January numbers before the holidays.

With many thanks to all who have aided and encouraged us in our work, and with our best wishes for their happiness and prosperity, we resign to others the management of the SCHOOL JOURNAL.—[RES. ED.]

## TRAINED TEACHERS.

We are of those who believe that poor schools are in the majority, and we do not think the cause of public school education will suffer by the statement, for our common schools will never be any better as long as we flatter ourselves that they are all right now. Making due allowance for want of proper school supervision the poor schools are due to poor teachers.

Of the \$695,539.25 which the State paid for teachers' wages last year, fully one-half of it was paid to inexperienced and unskillful teachers.

In the first place, forty per cent. were beginners. Of this number perhaps five per cent. have had the advantage of some Normal or Training School. Would it be an exaggeration to say that fifteen per cent. of those who have taught two terms or more are unfitted by education, either general or special, for their business? Admitting this, we prove our assertion.

The greater part of this waste of the public fund comes of course upon the rural towns. The cities and large towns offer such inducements of salary and situation as to draw away from the country many good teachers. Some large cities, as Hartford and New Haven, train their new teachers, mostly High School graduates, in special schools, so that they enter upon duty with some knowledge of the best methods of doing school work. With the exception of a few large towns in the State, there is a fearful ignorance among teachers of the theory of teaching and of time-saving methods of instruction.

We do not wish to be understood as saying that there are no good teachers in our mixed schools; for, very far from it. We believe there is hardly a town in the State but has good, faithful and earnest teachers who have tact and a comprehension of human nature, but who have never enjoyed an academic education or a special preparation for the teacher's work, but they are in the minority. How many of these, even, have made many mistakes in experimenting, and wasted much time that might have been saved if they had had the proper training in some preparatory school?

Is it not, then, the poorest economy for the State to stint its one Normal School on a meager allowance? Would it not be a wise economy to provide liberally for the training of teachers for every grade, especially for our mixed schools? We should double and quadruple the efficiency of the Normal School, increase its capacity, so that it can prepare fourfold as many teachers for the work. In a business point of view, the State should make the enterprise a paying one by providing liberally for it, increasing its corps of instructors, and holding out such inducements that all who wish to engage in teaching would seek to avail themselves of its advantages.

It is a matter of congratulation that our Normal School is increasing in public favor, and that the teachers and educators of the State are taking a just pride in its support and encouragement.

Finally, the questions, "How can we have better teachers?" and "How can school supervision be made more efficient," should be agitated until there is less apathy on these subjects than at present. The columns of the *SCHOOL JOURNAL* are open for the discussion.—[RES. ED.]

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#### NOTES ON NEW HAVEN SCHOOLS.

*The Training Schools.* Frequent inquiries from abroad in relation to the terms of admission to these schools and application for membership are made. About twenty young ladies are constantly in a course of preparation for teaching in the two schools. It is the design of the Board to give employment through these schools to *resident* young ladies of New Haven; and so long as those well qualified are found in the city, no others will be received from

abroad. Graduates of the High School are generally preferred, and that school furnishes a large proportion of all those employed.

*The High School Building* is rapidly rising, and begins to show something of its fair proportions. The third story will soon be completed, and the roof will probably be in position before the new year opens.

Ground is just broken for a new school-house on the corner of Division Street and Shelton Avenue, in Newhallville. The building is to be of brick, two stories high, four rooms on each floor, each room twenty-eight feet square, with a hall on each floor through the center, ten foot high. It is to be covered with a hip roof with dormer windows, under which a hall or additional school-rooms may be provided.

A beautiful primary School-house, on the corner of Oak and Greenwood Streets, was completed in August last, and was occupied at the opening of the present term. It accommodates two hundred and sixteen pupils, in four rooms.

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WANTED.

A situation as Principal of a Graded School. The applicant has had several years' successful experience as Principal of a school in one of the cities of Connecticut. Can furnish good testimonials. References, B. G. Northrop, Secretary of State Board of Education, or H. C. Davis, RES. ED. of the CONNECTICUT SCHOOL JOURNAL, New Haven, Conn., to whom communications can be addressed.

A young gentleman, a graduate of the Normal School at Bridgewater, Mass., desires a situation as Principal of a Graded School. Has had some experience. Address, B. G. Northrop, Secretary State Board of Education, New Haven.

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ANNALS OF EDUCATION.

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DANIELSONVILLE.—Sidney B. Frost, the Principal of the Danielsonville High School, who spent three years in Amherst College, was given the degree of A. M. at the last commencement. Mr. Frost's scholarly attainments and success in his profession well entitle him to it. The dedication of the new High School building has been postponed to December 6th, owing to unexpected delay in completion. By a recent vote of the district, five hundred dollars were appropriated for scientific apparatus. Danielsonville is showing a public spirit and liberality which it would be well for other places in Eastern Connecticut to imitate.

We learn that efforts are soon to be made for the organization of a Teacher's Association for Windham County. We hope that the teachers will be in earnest and form an organization that will be an example for other counties to follow. We have often urged in the JOURNAL that teachers need the stimulus that comes from a good, thorough, wide-awake teacher's association. We need such an organization in every county; one in every city.

BRIDGEPORT.—The schools in this active business city are well organized under good and experienced Principals. Several schools have enlarged their borders, indicating the growth of the place and the enterprise of the respective districts in furnishing ample accommodations for pupils. Prospect Street School, Park Hill, Principal, has recently been enlarged by an addition containing 8 rooms. The school has now 17 rooms in operation, employs 19 teachers, and numbers about 900 pupils. Barnum School, Frank Brackett, Principal, is being enlarged by the erection of a building for a primary department containing 2 rooms; not connected with the main building, but in another part of the district. When completed, the whole school will comprise one of 10 rooms, employing 11 teachers, and numbering about 500 pupils. Waltersville, A. S. Wilson, Principal, has 6 rooms, employs 7 teachers, and numbers about 700 pupils. Union School has recently been enlarged by an addition containing 4 rooms, making 6 in all. The school is under the superintendence of Chas. C. Dudley, Principal, under whom are 7 assistants. This school numbers about 450. Golden Hill School, A. M. Oakley, Principal, contains 3 rooms, employs 5 teachers and numbers about 300. East Bridgeport School, H. W. Lyon, Principal, has 2 rooms, employs 4 teachers, and numbers about 200. Besides the schools above alluded to, there are 4 others, numbering in the aggregate about 700. Although the schools of this city are independent of one another, and there is the want of consolidation of districts, yet they will compare favorably with any schools in the State. There is not that wanting in the respective schools what is so much needed concerning other districts, viz: system. The schools are under the management of experienced teachers, and every year shows encouraging and increasing results. And well may we claim a first rank among public schools.

MERIDEN is to have an evening school this winter, one having already been organized under the direction of J. T. Pettee. Everything has been done by the committee to make the room for it as convenient as possible. There are to be four sessions each week on consecutive evenings. Ages of pupils range from 14 to 30. The benefits of it are not to be withheld from the girls and young ladies. The North-west District has voted to build a new school-house, to seat about 60 scholars. It will be fitted up with modern furniture. The vacancy in the Principal's room of the Corner School, caused by the resignation of Miss Mary A. Page, now First Assistant in the Skinner School, New Haven, has been filled by the promotion of Miss Dowd from the 7th grade. Mrs. Laura R. Richards, a graduate of Mt. Holyoke Seminary and a teacher of several years' experience, has been appointed teacher in the 7th grade.

THE NEW SCHOOL LAW OF ONTARIO provides dwelling houses for teachers. Norway sets apart a small piece of land for the school-master to cultivate; this in addition to his regular salary. At least one teacher in every district is provided with a dwelling house for himself and family, and land enough, at least, to pasture two cows and to lay out a small garden.

Miss ELIZABETH PEABODY, not the least remarkable of that trio of sisters, of which Mrs. Nathaniel Hawthorne and Mrs. Horace Mann were the other members, is consecrating her life to the noble work of introducing Kindergarten into America.



ENFIELD.—Most of the schools in this town commenced with the regular school year, about September 1st; but a few of the out districts still cling to the old time-honored (?) custom of two long terms, a winter and a summer term. The rule adopted at the annual town meeting, in October, will go far towards remedying this evil. By its provisions every district is obliged to support a school for at least thirty-six weeks per year. The teachers and pupils will miss the familiar presence of Rev. Charles Brigham in their school-rooms during the coming year. For many years he has performed the duties of Acting School Visitor, and the present reputation of the Enfield schools is greatly due to his efforts. Rev. H. F. Lee, of Thompsonville, is his successor. Many of the twenty-five schools will be in charge of male teachers during the coming winter, although only two are permanently employed, one at Hazardville and another at Thompsonville. In the former village, drawing has been introduced into the upper departments. The system, Bail's, which is generally used throughout Connecticut, was inaugurated by an introductory lecture from Prof. Bail, of New Haven.—*N. E. Homestead.*

DANBURY.—There have been some changes in the corps of teachers in the High School building. Robert W. Newman, formerly of Peekskill, N. Y., assumed the Principalship of the High School at the commencement of the fall term. We learn that he is a man of culture and excellent antecedents as an instructor. Danbury has one of the finest school buildings in the State, certainly an indication of her interest in public school education, and her appreciation of its value to a community. The *quality* of the school in the building will depend upon the quality of the teachers, and the manner in which they are sustained in their work by the best men in the District. E. H. Ordell is Principal of the South Centre School.

STATE NORMAL SCHOOL.—We learn that the Autumn term has been a very successful one. Ninety-five pupils have been in attendance, and the exercises of the school have gone on smoothly, notwithstanding the sound of the workmen's hammer has been heard in the school building during most of the session. Principal Carlton has been burdened with the double duty of carrying on the the school, and at the same time superintending repairs, because of the delay on the part of the Legislature, last Summer, in making its appropriation for this institution. We hope that our General Assembly, next season, will act as generously, and much more promptly, toward the Normal school. The interior of the old Normal building has been greatly improved by the alterations which have been made therein. In the third story, two new recitation rooms, large, very convenient, and really quite attractive in appearance, have been finished off, and will supply a need which has long been sorely felt. One of these rooms has been fitted up as a chemical and philosophical lecture room, and promises to serve its purpose admirably. Students at the Connecticut Normal School will, next term, and thereafter, enjoy advantages such as the institution has never before furnished. The \$12,000 given this school, last summer, by the State, are being, as we believe, most judiciously and satisfactorily expended. The next term will open on Monday, December 11th, on which day a new class will be admitted, the examination for admission commencing at two o'clock, P. M. It is a matter of congratulation that our Normal School is increasing in

public favor and efficiency. Its Principal has been assiduous in his endeavors to raise the standard of solid instruction, and to prove the worth of the school to the people of the State, by the pupils whom he is sending out to do service as teachers.

**THOMPSONVILLE.**—Percy S. Bryant is Principal of the High School in this place. Under his instruction the school is prospering.

**GUILFORD.**—A correspondent of the *Palladium* writes:—From a recent visit to the Public School in Fair street I am able to give the following statement of it: The building is a comfortable one, situated upon low ground, and easier of access, in icy times, than of egress. The school-room is nearly thirty feet square, and is provided with suitable seats to accommodate fifty scholars. Hanging upon the north wall were two large maps, one of the United States and the other of New Haven county. Mottoes, formed of gilt letters, were also placed upon the walls, "God is Love," "A good name is rather to be chosen than great riches, and loving favor rather than silver or gold," "Be not weary in well doing," "Work while the day lasts," "Love thy neighbor as thyself." Miss Addie Rositer is the present teacher. The discipline of the school appeared very good, and if the patrons of the school will sustain the teacher in the course she has adopted, the session cannot fail to profit all who attend. The recitations were quite commendable. It is to be regretted that more do not take a deeper interest in our schools. The anticipated impulse to be given our educational interests by the so-styled "Consolidation of the Borough Districts," by the passive policy pursued, has nearly fizzled out, and doubtless will end in a magnificent failure. The trustees of the Institute, seeing the ripple fast receding, growing fainter and fainter,

" Like the hollow roar  
Of tides receding from the insulted shore,"

have decided to open the Institute, if they can secure a teacher at this late day.

A COUNTRY pedagogue had two pupils, to one of whom he was partial, and to the other severe. One morning it happened that these two boys were both late, and were called to account for it. "You must have heard the bell, boys; why did you not come?" "Please, Sir," said the favorite, "I was dreamin' that I was goin' to Californy, and I thought the school-bell was the steamboat-bell as I was goin' in." "Very well," said the master, glad of any pretext to excuse his favorite. "And now, Sir," turning to the other, "what have you to say?" "Please, Sir," said the puzzled boy, "I—I—was waiting to see Tom off."

**NEW HAMPSHIRE.**—The 18th Annual Meeting of the State Teachers' Association was held at the City Hall, Dover, the last Thursday and Friday in October. Prof. E. T. Quimby, of Dartmouth College, delivered an address Thursday evening on Practical Education, which was followed by a discussion of the question, "What shall be done with pupils who do not get their lessons?" by Messrs. Bartley, of Concord, and Edgerly, of Manchester. Friday forenoon a long and spirited discussion took place, occasioned by the introduction of the following resolutions, which were finally adopted:

*Resolved*, That in the text-books in our primary schools, and especially for the younger pupils, the plan of question and answer alternating upon the page, is, in our opinion, preferable to that which requires the child to analyze the text for himself.

*Resolved*, Further, that the teacher should so teach as to prepare the pupil to read and understand and recite from any book without questions at as early an age as possible.

The following are the officers elected for the ensuing year: President, Prof. E. T. Quimby; Vice-Presidents, J. G. Edgerly, S. W. Pearl, E. B. Philbrick; Counsellors, David Crosby, Professor Ephraim Knight, S. L. French; Secretaries, J. D. Bartley, Dr. N. Barrows; Treasurer, T. W. H. Hussey.

ELEGANT EXTRACTS.—“It is a singular fact, almost incredible to us, that New Haven has no High School. One would suppose the seat of the great Yale University would stand above all other cities in educational equipment.”

We think our friend R. H. Holbrook, Editor of the *National Normal*, at Cincinnati, Ohio, who utters this lamentation, has become a little *dazed* in reading the Superintendent's Report of the New Haven Schools. Think of it! Six pages of that report in relation to the anniversary exercises of the last graduating class, and a particular statement of the character and condition of the High School; sixteen pages of questions used at the last annual examination, and a tabular statement of the number of pupils connected with, yearly, since 1857; also a table showing the attendance of about *two hundred* pupils during the past year—and yet, “a singular fact, (?) New Haven has no High School!!”

Again he undertakes to quote,

“Although the number of teachers able to control their rooms without corporal punishment was never so large, the amount of whipping done has never been greater than during the previous year.”

The language of the report is as follows: “And yet the whole number of such punishments in all the schools has been a *little* larger than *during the previous year*.” And of the punishments of the *previous* year, the Superintendent's Report speaks in this wise: “The marked improvement in the discipline of the schools has been to me a source of great gratification. The diminution of corporal punishment has been as rapid as the preservation of good order would permit. The decrease has been more than seventy per cent. in the district since 1865; and yet, never has the government of the schools been more efficient; never has the relation of teacher and pupil been marked by greater mutual respect and cordiality of feeling than during the past year.” The *fact* is, the reduction of corporal punishment in the New Haven schools is a matter of public congratulation, and very creditable to the teachers, who have created an era of mutual good will between themselves and pupils by improved methods of government. We believe few cities can make a better report.

If the *Normal* aspires to be regarded as *National*, it must have greater regard for *accuracy* and *truthfulness*.

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## BOOK NOTICES.

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THE ELEMENTARY MUSIC READER. By B. JEPSON, Instructor of Vocal Music in the New Haven Public Schools. Published by C. C. CHATFIELD & Co., New Haven, Conn.

What Topsy said of herself is eminently true of this attractive little work. From a few chalk marks on the Black Board, with a little real instruction, accompanied with vocal exercises, as an experiment, some half a dozen years ago, a "Music Reader" has literally "*grown*" up in the school-room, from the practical suggestions of daily experience. From the instruction of seven or eight hundred pupils at the outset, the number to whom the author gives lessons, each week, is now between seven and eight thousand; and this great labor is rendered possible chiefly through the agency of this series of graded lessons. With this book the teachers in all our schools are enabled to give daily practice on lessons given out weekly by the instructor of vocal exercises. Children in the primary rooms make equal progress in learning the alphabet of music, and their lessons in reading. Multitudes of elementary works have been prepared to teach the elements of music; but it is obvious that the volume before us is far in advance of anything hitherto offered for universal use. A very slight examination will be sufficient to convince any teacher of its superior value for practical work in the school-room. We heartily commend it to teachers and school committees, who desire successful instruction, in this branch, in their schools.

**ELEMENTS OF PLAIN GEOMETRY, WITH AN APPENDIX ON MENSURATION.** By THOMAS HUNTER, A. M., President of the Normal College, New York. Published by HARPER & BROTHERS, New York.

A glance at the pages of this little compendium convinces us that geometry, properly taught, may be as easily comprehended by pupils as arithmetic and algebra. It is refreshing to see the features of old Euclid conspicuous on its pages, so simplified in the arrangement, that each successive step is made obvious by those preceding. Practical application of principles is a prominent feature of the work; and an appendix on mensuration of surfaces furnishes a useful application of arithmetic to the geometry previously studied.

**A PRACTICAL ARITHMETIC,** designed for Common Schools and Academies. By WHITMAN PECK, A. M. Published by J. W. SCHERMERHORN & Co., New York.

Here is an unpretending book of *real* merit. We are confident that any teacher of experience would discover in it excellences on a short examination. One of the best points in its favor is that it is complete in itself. Our schools are cursed with text-books published in a *series*. The everlasting *series*. Series of Geographies, series of Readers, series of Grammars, series of Arithmetics. Teachers are hampered in their usefulness, and pupils waste half their school days (we are not exaggerating) in this slavery to text-book series. The American schools are in bondage to the book publishing houses, and will be until teachers and committees declare their independence and renounce their support of text-books published in series. The child, after comprehending the ideas of number, aggregation, and diminution, needs no elaborate picture book, or set of picture books, in learning to add, subtract, multiply and divide. Such are only hinderances to progress in learning the processes in Arithmetic. This book of 286 pages contains all that is essential in Arithmetic. After a little oral practice under the direction of the teacher, the book could be put into the hands of children reading in the Second Reader, and used by them until they have done with the study of the science. A distinguishing feature of the book is the num-

ber of Promiscuous Examples under the several different rules, so arranged as to exercise the judgment of the pupil in determining what principles to apply. The rules are few and concise; the examples are not puzzles, but fair and proper test questions, illustrative of the principles.

**SCHOOL MANAGEMENT.** By ALFRED HOLBROOK, Principal of Normal School, Lebanon, Ohio; Author of Normal Methods of Teaching. Published by JOSIAH HOLBROOK, Lebanon, Ohio.

The name of Josiah Holbrook has been "familiar as household words," to the older class of teachers. To him the past generation of pupils owe more than to any other educator, for variety of methods and ingeniously devised apparatus to illustrate subjects taught. And now we have the experience and observation of the son embodied in a volume of 270 pages, comprising twenty-one lectures delivered before the pupils of the institution, of which he is principal. Not a little of the father's genius appears in these views of the son, in relation to school management. Nothing pertaining to the government of a school seems to have escaped his notice, and many valuable suggestions in relation to methods of teaching are made. If the style is somewhat quaint, it is direct and forcible. It is a volume that will be read by the teachers of the Common Schools with great interest and profit, because it presents so graphically the real life of the school-room, and suggests so many methods by which the trials of the young teacher can be alleviated or avoided. Teachers of every grade will find many valuable hints in its pages.

*We have several books on our table for review, some of which came to late for notice in this number.*

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## PERIODICALS.

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### THE NEW YORK OBSERVER.

**FIFTY YEARS IN THE FIELD.**—The *New York Observer* is about celebrating its jubilee, entering upon its fiftieth year in 1872. It is one of the oldest newspapers in the country, one of the ablest, and one of the most steadfast and fearless in maintaining the truth in religion, the right in morals, and honesty in all public and private affairs. It announces for the coming year, the publication of the second volume of its Year Book; a vast repository of information, statistical and otherwise, relating both to Church and State, which will be sent free to all who pay their subscription for 1872. This volume last year was worth the subscription price of the paper, and the Publishers promise a more complete Year-Book for 1872. Specimen copies of the paper, with Prospectus for the Year Book, sent free on application from any source. New Subscribers will receive the paper free until January 1st. Address, *New York Observer*, 37 Park Row, New York.

### THE RHODE ISLAND SCHOOL-MASTER,

for October, contains an interesting account of the opening of the new State Normal School. Addresses were made by the Governor, Mayor of Providence, Superintendent Leach, Secretary Bicknell, of the State Board of Education, Mr. Greenough, Principal of the School, and others.

# PROSPECTUS.



## The Connecticut School Journal.



The CONNECTICUT SCHOOL JOURNAL will be continued under the following Board of Editors, nominated by the State Teachers' Association at the last annual meeting at Norwich:—

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It will avoid giving prominence to untried theories, and the discussion of questionable reforms. No pains will be spared to secure for its pages such articles as will have a practical bearing on the every day work of the teacher.

About two pages will be devoted to the Annals of Education, including items of Personal Intelligence. The column called the "Teacher's Bulletin" will be found useful as representing both

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From J. B. CHASE, Instructor in Mathematics, Russell's Collegiate Home Institute, New Haven.

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